ORDER NO. HAD8703041C0

Service Manual

Turntable System

SL-J300R

QUARTZ Direct Drive
Automatic Turntable System

Color	Areas
(K)	[M] ..... U.S.A.
(K)	[MC] ... Canada.
(K)	[E] ..... Switzerland and Scandinavia.
(K)	[EK] .... United Kingdom.
(K)	[XL] .... Australia.
(K)	[EG] ... F.R. Germany.
(K)	[EB] .... Belgium.
(K)	[EH] .... Holland.
(K)	[EF] .... France.
(K)	[Ei] ..... Italy.
(K)	[EC] .... Czechoslovakia.
(K)	[XA] .... Asia, Latin America, Middle Near East, Africa and Oceania.
(K)	[PA] .... East PX.
(K)	[PE] .... European Military.

Color

(K) .... Black Type

Note:
Only models for U.S.A. and Canada are not provided with cartridge.

T4P is the standard mark for the "P-mount" plug-in-connector system. Products carrying this mark are interchangeable and compatible with each other.

SPECIFICATIONS

■ TURNTABLE SECTION

Type: Automatic turntable
Drive method: Direct drive
Motor: Brushless-DC motor
Drive control method: Quartz-phase-locked control
Turntable platter: Aluminum die-cast
Diameter 300 mm (12")
Turntable speeds: 33-1/3 rpm and 45 rpm
Wow and flutter: 0.012% WRMS (*)
0.025% WRMS (JIS C5521)
±0.035% Weighted zero to peak
(IEC 98A weighted)

* This rating refers to turntable assembly alone, excluding effects of record, cartridge or tonearm, but including platter. Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble: 78 dB DIN-B (IEC 98A weighted)
56 dB DIN-A (IEC 98A unweighted)
Speed deviation: Within ±0.002%

■ TONEARM SECTION

Type: Static-balanced, Linear tracking tonearm
Plug-in-connector type straight tonearm
Effective length: 105 mm (4-1/8")
Tracking error angle: ±0.1°
Effective mass: 9 g (including cartridge)
Resonance frequency: 12 Hz
(with 6 g cartridge weight, 1.25 g stylus pressure, 12×10^{-6} cm/dyne compliance)
Stylus pressure: 1.25 g (fixed)

■ CARTRIDGE SECTION

Type: Moving magnet stereo cartridge
Frequency response: 10 Hz~40 kHz
Output voltage: 2.5 mV at 1 kHz,
5 cm/s. zero to peak lateral velocity
(7 mV at 1 kHz, 10 cm/s. zero to peak
45° velocity [DIN 45 500])
Channel separation: 22 dB at 1 kHz
Channel balance Within 1.8 dB at 1 kHz
Recommended load impedance: 47 kΩ~100 kΩ
Compliance (dynamic): 12×10^{-6} cm/dyne at 100 Hz
Stylus pressure range: 1.25±0.25 g
Weight: 6 g (cartridge only)
Replacement stylus: EPS-30ES

Technics

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■ GENERAL

Power supply:
For U.S.A. and Canada:
AC 60Hz, 120V
For United Kingdom and
Australia: AC 240V, 50Hz
For Continental Europe:
AC 220V, 50Hz
For others:
AC 110~127/220~240V, 50/60Hz

Power consumption: 9 W
Dimensions (W×H×D): 360×95×318 mm (14-1/4"×3-3/4"×12-1/2")
Weight: 4.1 kg (9 lb.)

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

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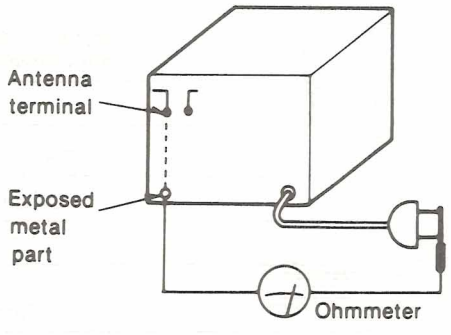
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

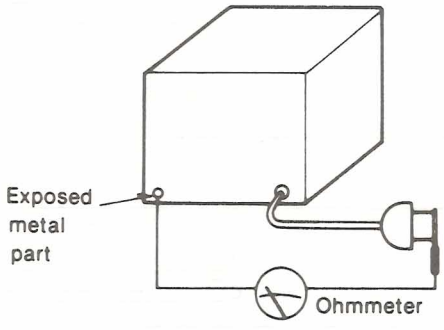
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ

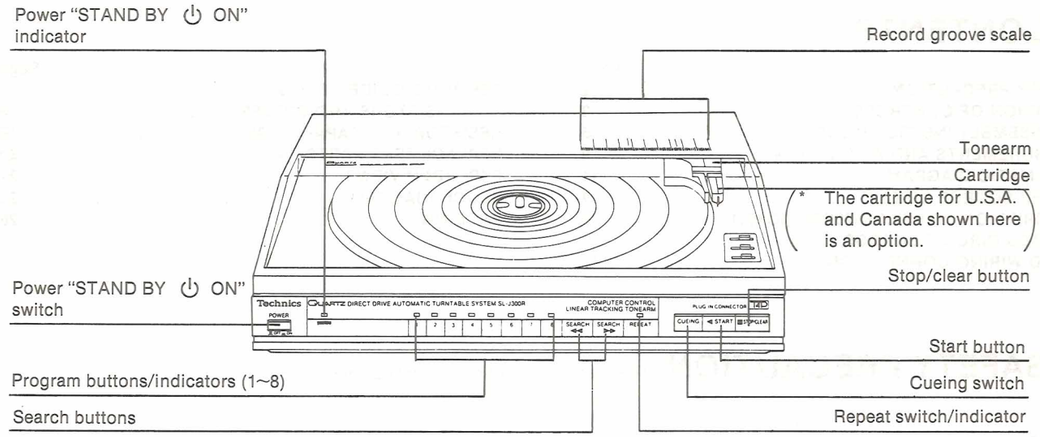


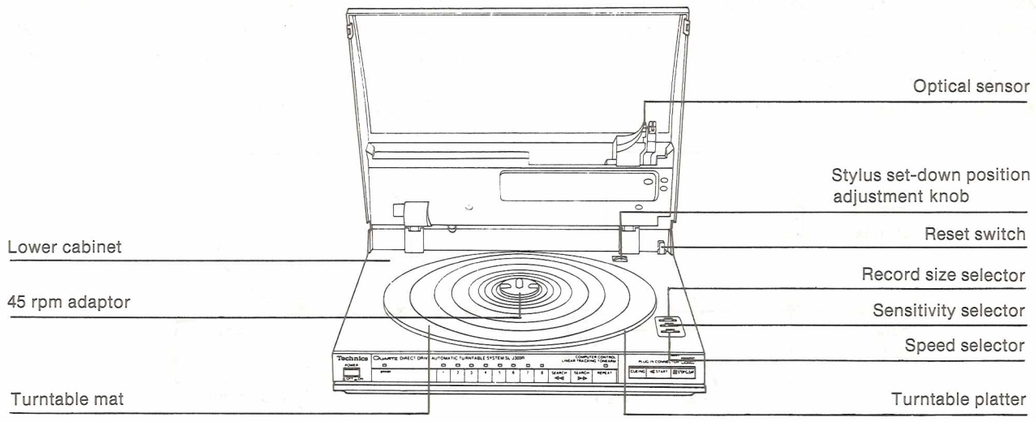
(Fig. B)

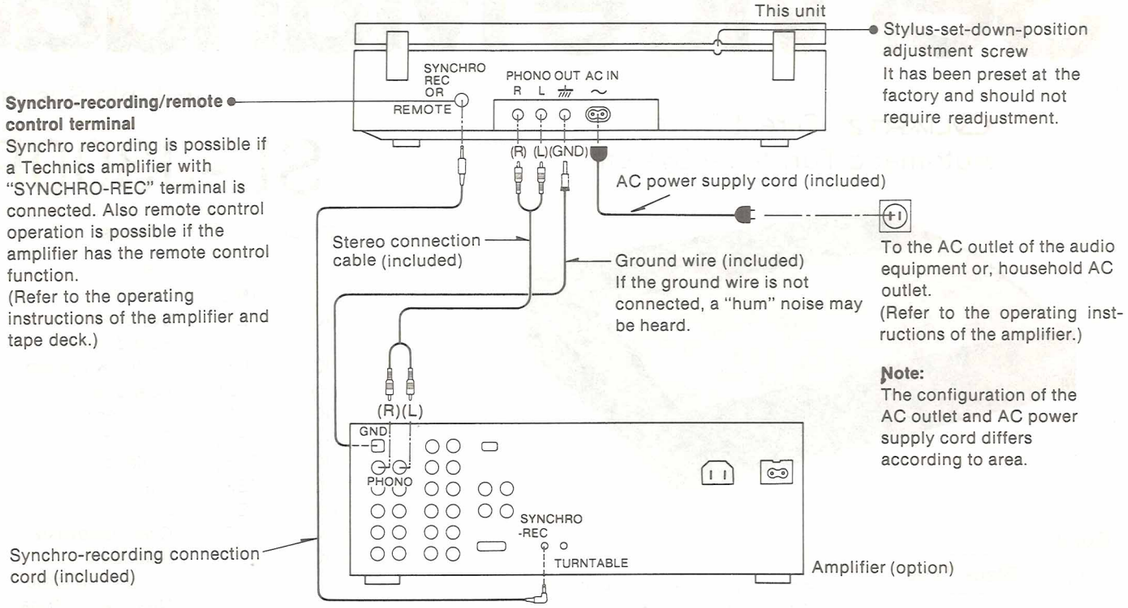
Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

■ LOCATION OF CONTROLS

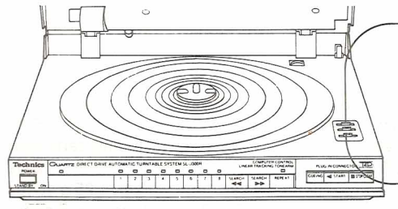




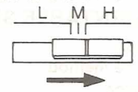

This unit
Stylus-set-down-position adjustment screw
It has been preset at the factory and should not require readjustment.
SYNCHRO REC OR REMOTE
PHONO OUT AC IN
R L
(R) (L) (GND)
Synchro-recording/remote control terminal
Synchro recording is possible if a Technics amplifier with "SYNCHRO-REC" terminal is connected. Also remote control operation is possible if the amplifier has the remote control function.
(Refer to the operating instructions of the amplifier and tape deck.)
AC power supply cord (included)
Stereo connection cable (included)
Ground wire (included)
If the ground wire is not connected, a "hum" noise may be heard.
To the AC outlet of the audio equipment or, household AC outlet.
(Refer to the operating instructions of the amplifier.)
Note:
The configuration of the AC outlet and AC power supply cord differs according to area.
(R)(L)
GND
PHONO
SYNCHRO -REC
TURNTABLE
Synchro-recording connection cord (included)
Amplifier (option)

If the number of tunes is not correctly detected.

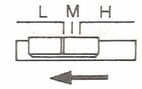
If the number of tunes on the disc and the number of tunes shown by the indicator do not agree, proceed as follows.



If the number shown by the indicator is lower:
Specified tune is skipped over and the next tune is played instead. ..... Set the sensor sensitivity selector to the "H" position



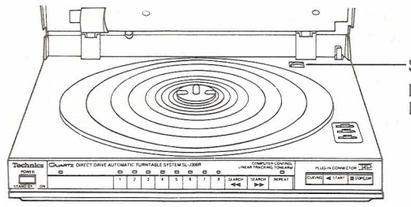
If the number shown by the indicator is greater:
Play starts from the middle of a tune or stops at the moddle of a tune. ..... Set the sensor sensitivity selector to the "L" position.



Notes:
- After listening is finished, be sure to set the sensitivity selector to the "M" position.
- If the operations described above do not solve the problem, play the disc manually.

Adjustment of the stylus-set-down position.

The stylus-set-down position is preset at the factory.
If, during the programmed play, no sound is heard even when the stylus reaches the beginning of the specified tune or, no sound is heard for a long time after the stylus contacts the disc, make the adjustment.



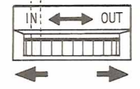
Stylus set-down position adjustment knob

Notes:
- The first tune of a disc can not be adjusted. Adjustment is possible only for tunes 2 through 8.
- If between-tune gaps are extremely short or contain music and when an eccentric tune is used, this adjustment will not correct the program and the disc should be played manually.

Set the sensitivity selector to the "H" position

- If no sound is heard even when the stylus reaches the beginning of the specified tune,
  Rotate in the "OUT" direction (to the right).
- If no sound is heard for a long time after the stylus contacts the disc (more than 30 seconds),
  Rotate in the "IN" direction (to the left).

1-2 clicks moves the tonearm about 0.1 mm.

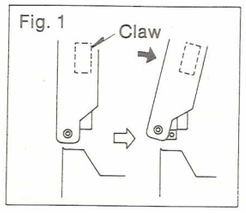


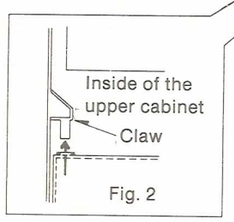
Always return the sensitivity selector to "M" position after completing the above adjustment.

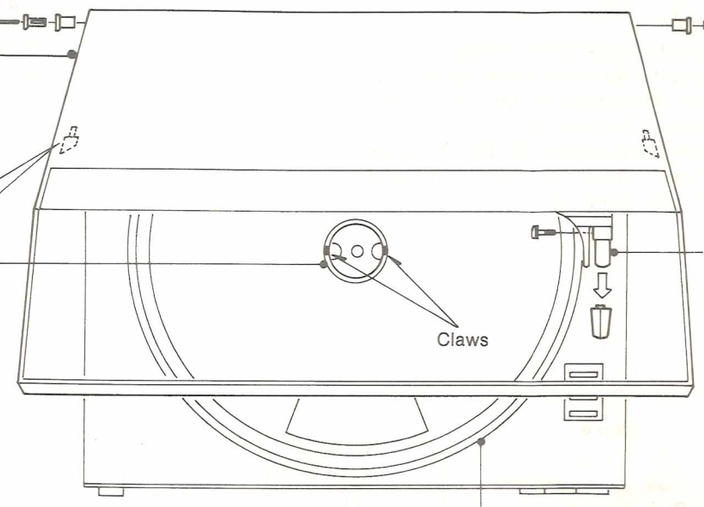
■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	How to remove the upper side parts
Procedure 1	

To remove the upper cabinet (dust cover)
1. Open the upper cabinet.
2. Remove the 2 plastic rivets by using a screwdriver.
3. Tilt the upper cabinet slightly as shown in the Fig. 1.
4. Pull out the cabinet as shown in the Fig. 2



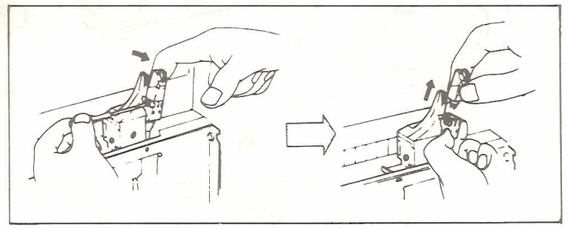




To remove the 45 rpm adaptor
1. Remove the turntable mat.
2. Turn the 45 rpm adaptor counterclockwise.
3. Release the 2 claws.

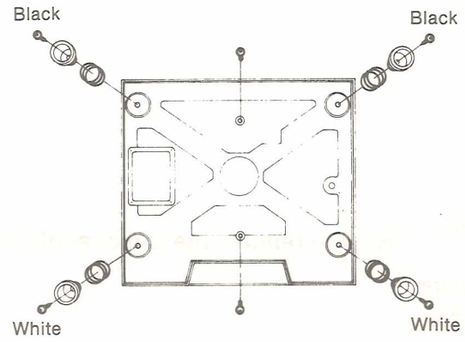
To remove the turntable platter
1. Open the upper cabinet.
2. Remove the turntable mat.
3. Lift the turntable.

To remove the cartridge
1. Place a disc on the turntable.
2. Turn on the power.
3. Press the start button.
4. Turn off the power when the tonearm moves to the 25 cm position, then open the upper cabinet.
5. Remove the cartridge set-screw.
6. Pull out the cartridge in the direction of arrows as shown below.



Ref. No. 2	How to remove the bottom board
Procedure 2	

1. Remove the turntable platter.
2. Turn over the unit on a soft cloth.
3. Remove the 6 screws.



Caution:
Note the color of 4 springs, they must be reinstalled to their original positions.

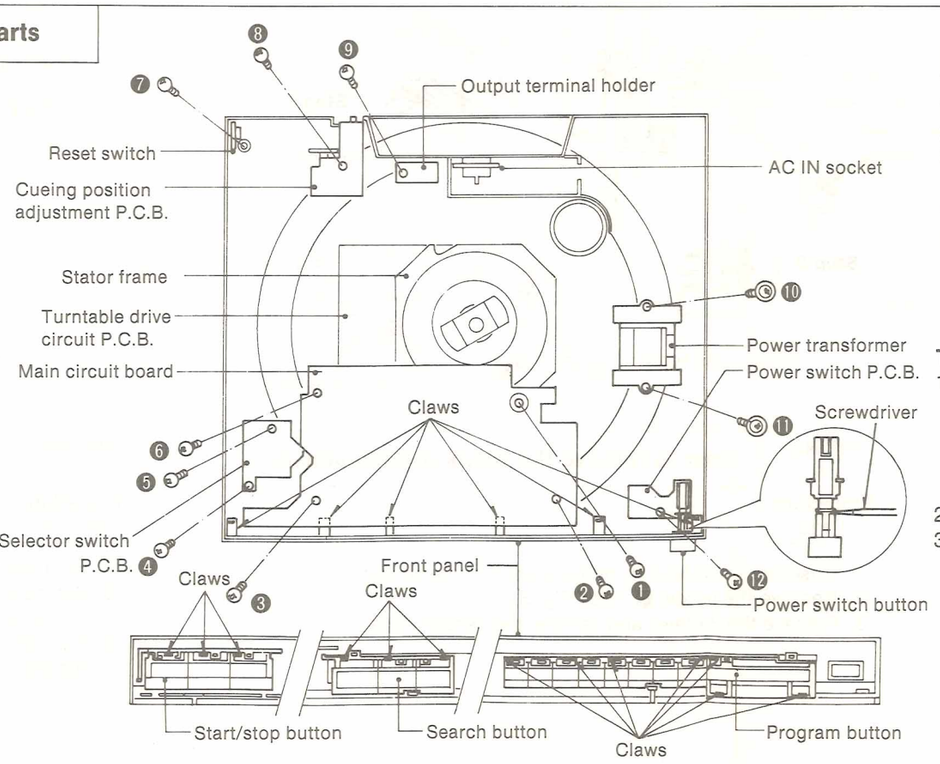
Ref. No. 3	How to remove the lower side parts
Procedure 2 ➧ 3	

To remove the main circuit board
1. Remove the screws (❶ ~ ❻).
2. Remove the selector switch P.C.B.
3. Remove the main circuit board.

To remove the front panel
1. Remove the power switch button.
2. Remove the main circuit P.C.B.
3. Release the 6 claws, and remove the front panel.

To remove the front panel switch buttons
1. Remove the front panel.
2. Release the claws.
3. Remove the operation buttons.
   * When removing the operation buttons, release the claws with care.

Remove each screw to remove the following parts.
- Reset switch ..... Screw ❼
- Cueing position adj. P.C.B. ..... Screw ❽
- Output terminal holder ..... Screw ❾

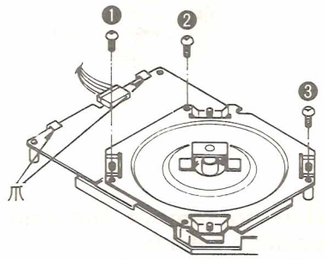


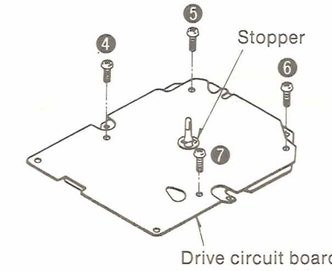
To remove the power transformer
1. Remove the 2 screws (❿, ⓫).
2. Unsolder the terminals.
3. Pull out the power transformer from the cabinet.
4. Remove the rubber cushion.

To remove the power switch P.C.B.
1. Remove the power switch button.
   * When removing the power switch button, be sure to turn off the power switch. Otherwise the power switch may be damaged.
2. Remove the screw ⓬.
3. Pull out the power switch P.C.B. as lifting up the lead wire side.

Ref. No. 4	How to remove the drive circuit board
Procedure 2 ➧ 3 ➧ 4	

1. Remove the 3 screws (❶ ~ ❸).
2. Cut off the stopper with nippers, and remove the 4 setscrews (❹ ~ ❼).

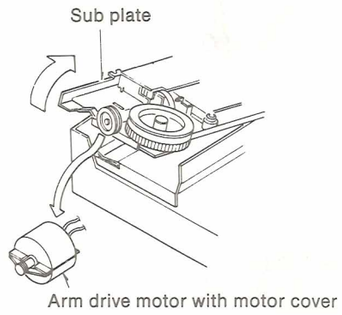




Ref. No. 5 — How to remove the tonearm drive motor

Procedure 1 ➧ 5

1. Remove the belt.
2. Unsolder the terminals on the P.C.B.
3. Remove the 2 screws (❶, ❷) of the sub-plate. (See Fig. 3.)
4. Lift the sub-plate and remove the motor with care not to let the arm drive rope come loose.
5. Remove the motor cover.



Ref. No. 6 — How to remove the tonearm part

Procedure 1 ➧ 6

1. Remove the roller cover. (Step 1)
2. Remove the rest switch rod. (Step 1, 2)
3. Remove the arm drive rope. (Step 1, 3)
4. Disconnect the lead from the holder. (Step 4)
5. Remove the 2 screws (❶, ❷) of the sub-plate.
6. Remove the guide rail from the sub-plate.
7. Pull out the guide rail.

Ref. No. 7 — How to remove the tonearm and cueing plunger

Procedure 6 ➧ 7

1. Remove the shielding plate setscrew ❹.
2. Unsolder the 5 leads from the tonearm. (See Fig. 3.)
3. Turn over the tonearm unit and remove the pin. (See the figure below.)

* The pin should be inserted from the upper side of the tonearm. Marks on P.C.B. and lead wire colors.

Mark	Color	Mark	Color
R	Red	W	White
G	Green	B	Blue
K	Black	Y	Yellow

To remove the cueing plunger.
1. Unsolder the 2 leads from the plunger.
2. Turn over the tonearm unit and remove the screw. (See the figure below.)

Ref. No. 8 — How to remove the offset angle sensor

Procedure 1 ➧ 8

1. Unsolder the 3 leads from the offset angle sensor.
2. Remove the adjustment screw. (After assembly it is necessary to adjust the offset voltage.)

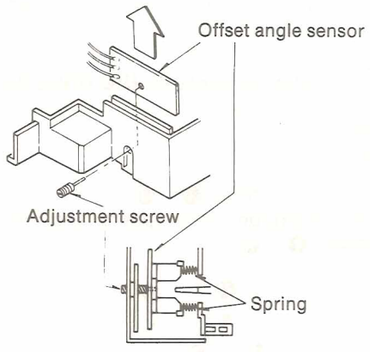
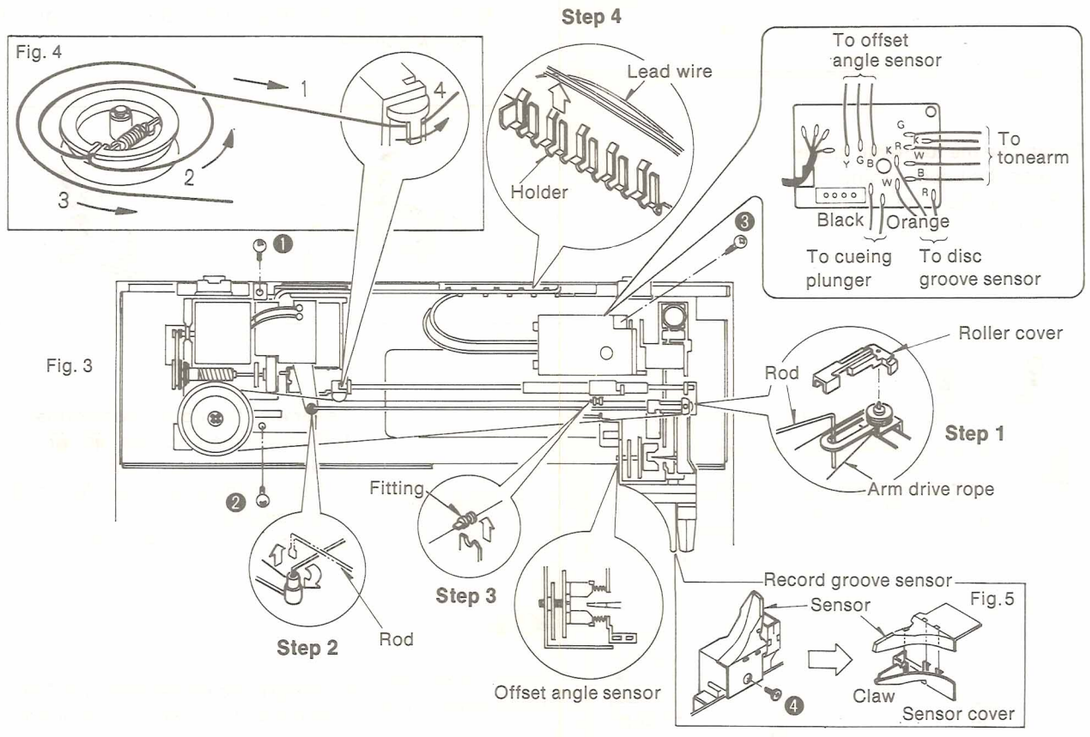


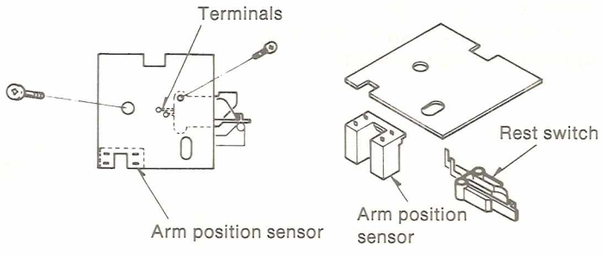
Fig. 3



Ref. No. 9 — How to remove the rest switch and arm position sensor

Procedure 1 ➧ 9

1. Remove the 2 screws.
2. Unsolder each terminal.



Ref. No. 10 — How to remove the blank groove sensor

Procedure 1 ➧10

1. Unsolder the 3 lead from the blank groove sensor.
2. Remove the screw ❹. (See Fig. 5.)
3. Release the 3 claws and remove the sensor cover.

Ref. No. 11 — How to set the tonearm drive rope

Procedure 6 ➧ 11

1. Set the rope in the order as shown in the Fig. 4.
2. Set the fitting to the tonearm, and then attach the rope to the roller. (Step 3, 1)
3. Turn the worm gear and make sure that the tonearm moves.

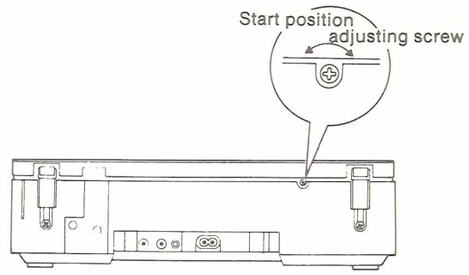
■ MEASUREMENTS AND ADJUSTMENTS

Control position and equipment used

- Sensitivity selector.....M
- Oscilloscope
- DC voltmeter
- Record (SFTR007) for adjustment

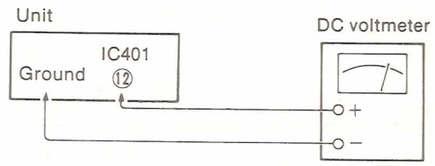
START POSITION ADJUSTMENT

1. Put on a 30 cm record.
2. Turn the power switch "on", and press the start button.
3. If the stylus drops too much inside or outside the record, adjust the start position by turning the adjusting screw.
   - **Clockwise**..... Stylus drop position is shifted inside.
   - **Counterclockwise** ..... Stylus drop position is shifted outside.



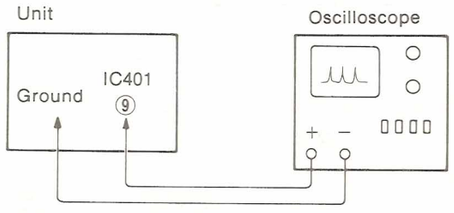
SENSOR GAIN ADJUSTMENT

1. Connect the DC voltmeter to IC401 pin 12 (+) and ground (−).
2. Put on the record with side A up and close the upper cabinet.
3. Turn the power switch on with the tonearm at the rest position. (Blank area of the record.)
4. Adjust **VR401** so that the output voltage is **8.5V±0.3V**



SENSOR RESOLUTION ADJUSTMENT

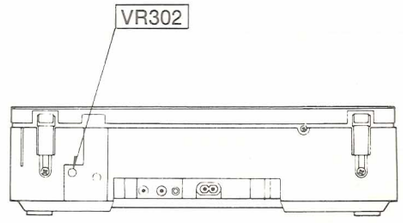
1. Set the size selector to "manual" position.
2. Connect the oscilloscope to IC401 pin 9 (+) and ground (−).
3. Put on the record with side A up and close the upper cabinet.
4. Turn the power switch on and keep the F skip switch depressed to move the tonearm.
   (Output voltage is delivered between the tunes.)
5. Adjust **VR402** so that the peak output between tunes is **3.4V±0.3V**.



- Oscilloscope setting
  VOLT.....1V
  SWEEP.....10μsec.
  INPUT.....DC
- Waveform

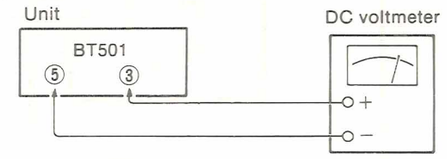
STYLUS CUE-DOWN POSITION ADJUSTMENT

1. Connect lead wire clip to CN301 pins 1 and 5 of operation circuit board. (Muting operation stops.)
2. Open the upper cabinet and hold down the cabinet switch with tape.
3. Put on the record with side B up and close the upper cabinet.
4. Connect the unit to the amplifier.
   (Connect the speakers to the speaker terminals.)
5. Turn the power switch on and push program key 2, followed by the start switch.
6. Adjust **VR302** so that the descending position is at count "**15**".

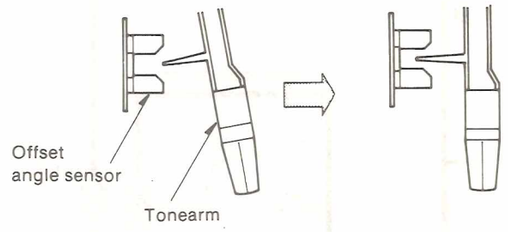


SERVO GAIN AND OFFSET VOLTAGE ADJUSTMENT

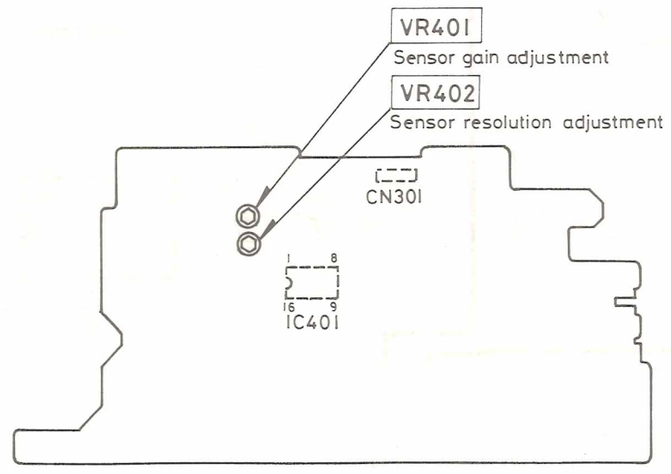
1. Remove the dust cover.
2. Connect DC voltmeter to BT501 pin 3 (+) and pin 5 (−).
3. Turn the power switch "on".
4. Turn the **VR501** so that the voltage is **6V** with tonearm completely turned to the right (offset angle sensor "open"). (**Servo gain adjustment**)
5. Return the tonearm to the center and make sure that the voltage is **3V**.
6. If the voltage is not **3V**, adjust it by turning the offset voltage adjusting screw. (**Offset voltage adjustment**)

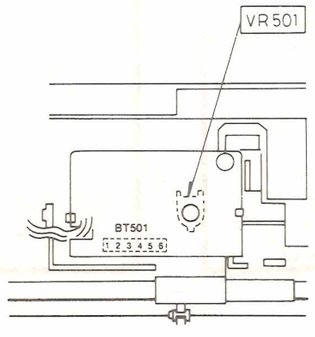


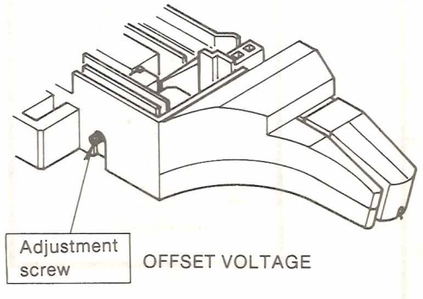
- Tonearm turns to the right
- Tonearm at center



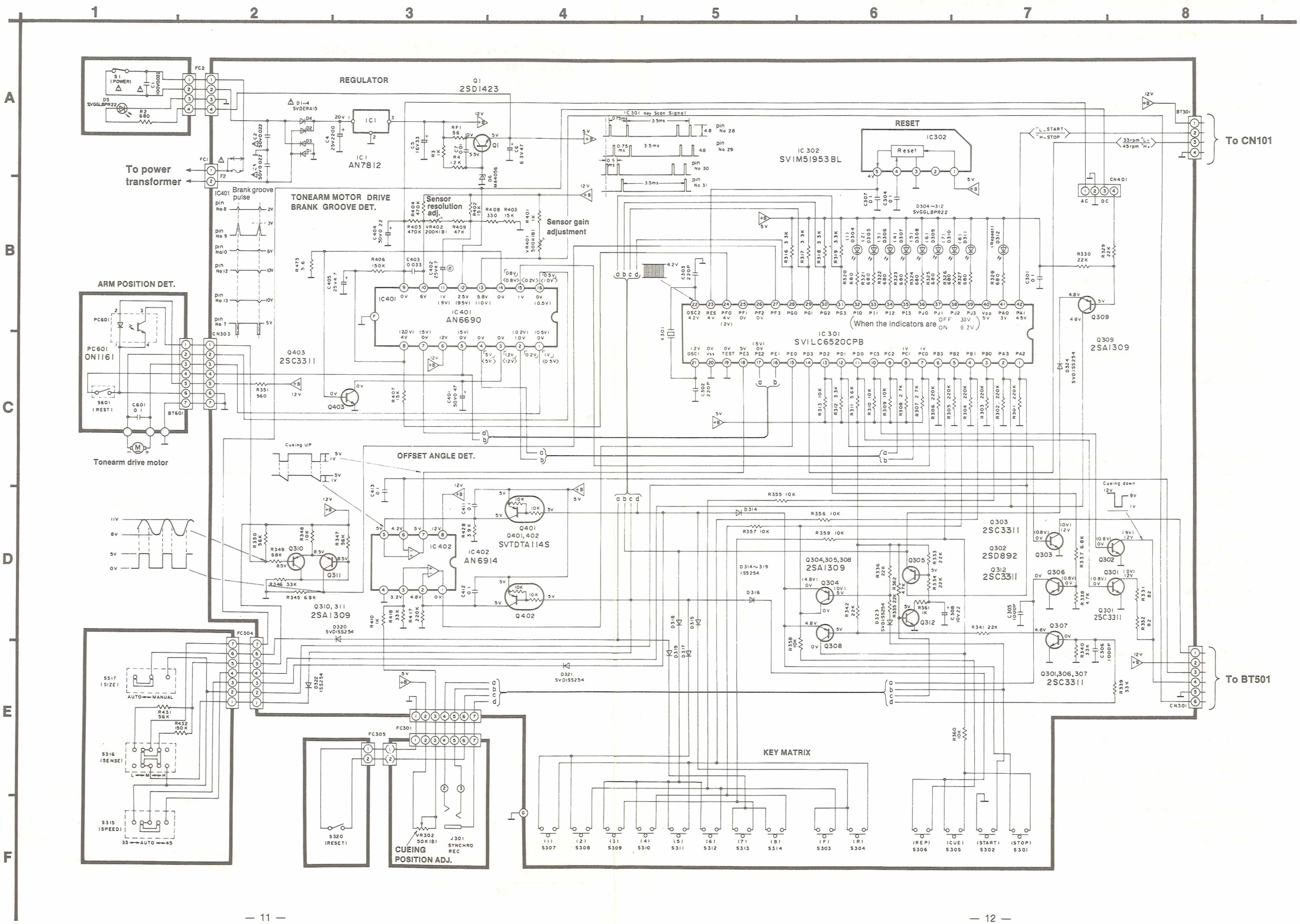
- **Adjustment point**

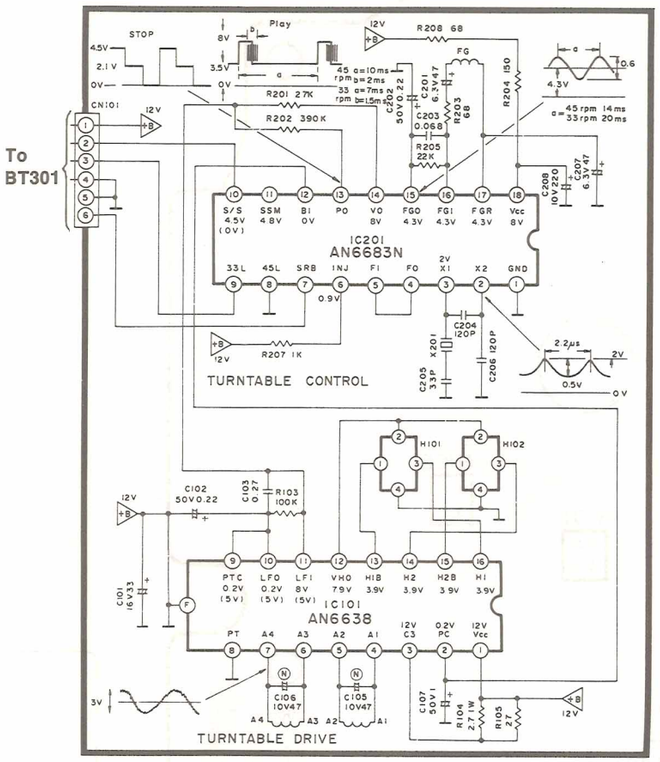






■ SCHEMATIC DIAGRAM (This schematic diagram may be modified at any time with development of new technology.)





Notes:

1. **S1** : Power switch in **"on"** position.
2. **S301** : Stop/clear switch
3. **S302** : Start switch
4. **S303** : Forward skip/search switch.
5. **S304** : Reverse skip/search switch.
6. **S305** : Cueing control switch.
7. **S306** : Repeat switch.
8. **S307~314** : Program switch. (Program key 1~8)
9. **S315** : Speed selector switch in **"auto"** position.
10. **S316** : Sensitivity selector switch in **"M"** position.
11. **S317** : Record size selector switch in **"auto"** position.
12. **S320** : Reset switch in **"off"** position.
13. **S601** : Rest switch in **"off"** position.
14. **S901** : Voltage selector switch. (Product for [XA] [PA] and [PE] areas only)
15. The voltage value and waveform are the standard values of this unit in the stop motion measured by a DC electronic voltmeter (high impedance) and a oscilloscope on the basis of chassis. Therefore, the voltage value and waveform may include some error due to the internal impedance of the measuring instrument or the unit measured.
    *( ): Voltage in 33 rpm.
16. Important safety notice:
    Components identified by ⚠ mark have special characteristiscs important for safety. When replacing any of these components, use only manufacturer's specified parts.

Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

• Product for MC only

FUSE REPLACEMENT

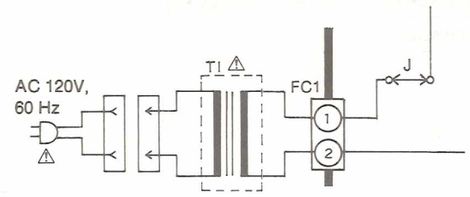
Symbol located near the fuse indicates fast operating type. For continued protection against fire hazard, replace with same type fuse. Refer to the symbol for fuse rating.

FUSIBLE REMPLACEMENT

Le symbole qui se trouve près du fusible signifie un fusible à action rapide. Pour une protection continue contre les risques d'incendie, n'utiliser que des fusibles du même type. Se rapporter au symbole pour la valeur des fusibles.

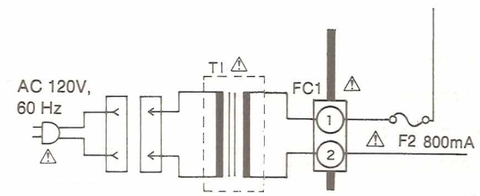
■ POWER SOURCE CIRCUIT

Product for U.S.A. ([M] area.)



Product for Canada [MC] area

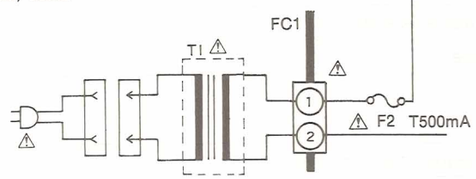
* F2 (fuse) is mounted on the main P.C.B.



Product for other areas ([E], [EK], [XL], [EG], [EB], [EH], [EF], [Ei] and [EC] areas.)

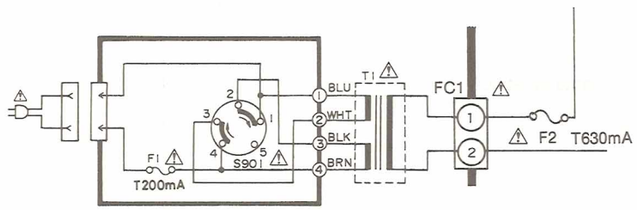
* F2 (fuse) is mounted on the main P.C.B.

For continental Europe
: AC 220V, 50Hz
For Australia and United Kingdom
: AC 240V, 50Hz

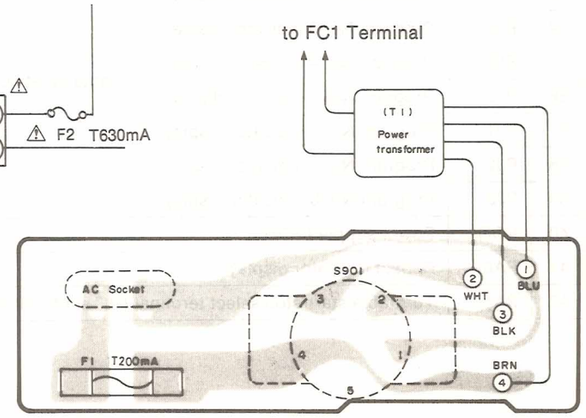


Product for Asia, Latin America, Middle Near East, Africa & Oceania, Far East PX and European Military ([XA], [PA] and [PE] areas.)

* F2 (fuse) is mounted on the main P.C.B.



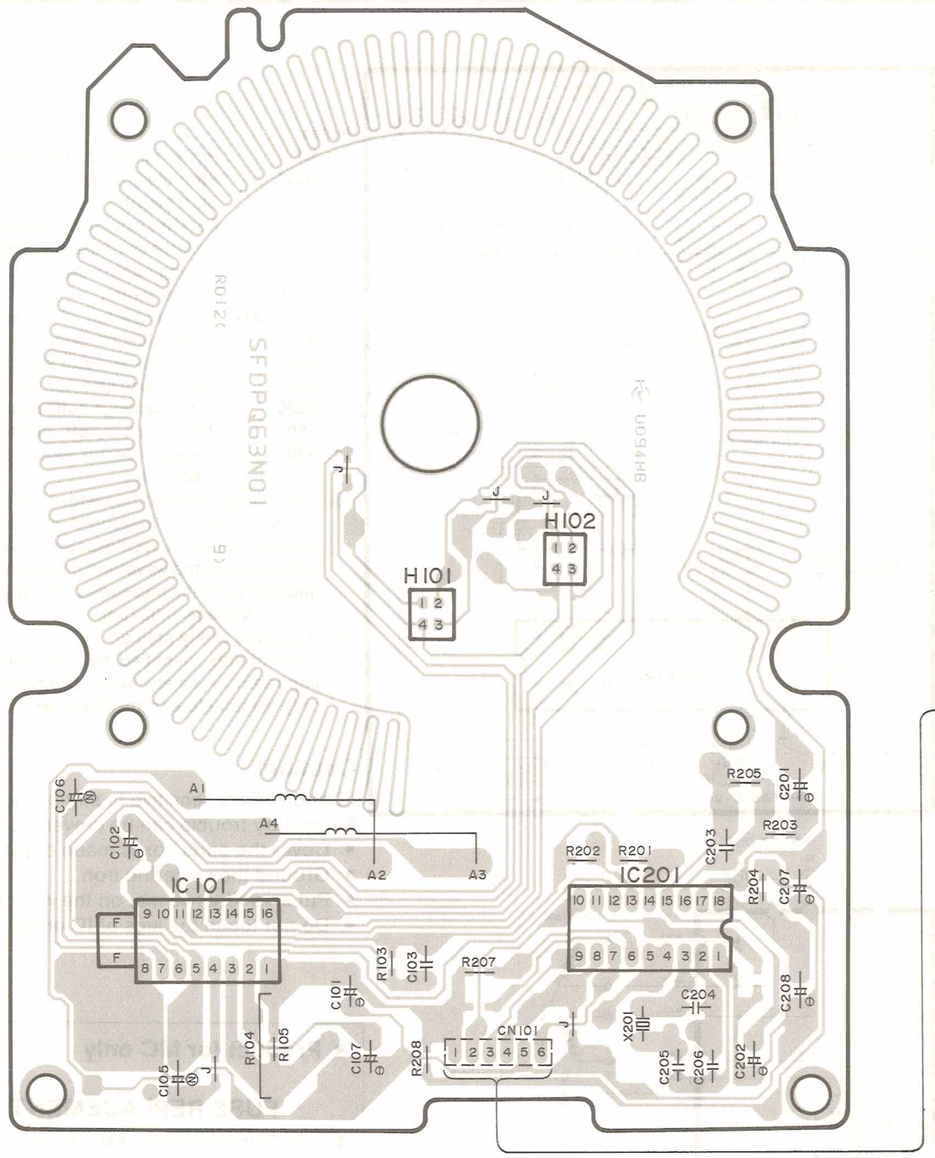
For other areas
: AC 110~127/220~240V, 50/60 Hz



■ DESCRIPTION OF SVILC6520CPB (IC301)

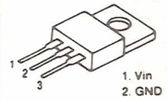
No.	Mark	Description
1	PA2	Speed select, reset detection and size select are performed by key scan.
2	PA3	Speed select is performed by key scan.
3	PB0	key scan input (keys are read by key scan of PG ports.)
4	PB1	
5	PB2	
6	PB3	
7	PC0	Arm motor forward control
8	PC1	Arm motor backward control
9	PC2	Arm motor on/off select
10	PC3	Cueing control
11	PD0	
12	PD1	Muting relay control (Muting is off at "H")
13	PD2	Synchro recording control (Synchro recording is on at "H")
14	PD3	Turntable speed select (45 rpm "H", 33 rpm "L")
15	PE0	Reading for stylus cue-down position adjusting time
16	PE1	Tonearm rest position detection ("L" when tonearm is at rest)
17	PE2	Blank pulse detecting signal input terminal
18	PE3	Offset angle detecting signal input terminal
19	TEST	Test terminal
20	VSS	Ground terminal
21	OSC1	Clock oscillation terminal
22	OSC2	
23	RES	Reset terminal (Microcomputor is reset at "L")
24	PF0	Gain select in EP record mode
25	PF1	Not used in this unit
26	PF2	
27	PF3	Tonearm position detecting signal input terminal
28	PG0	Key scan and offset angle read strobe
29	PG1	Key scan and stylus cue-down position read strobe
30	PG2	Key scan output
31	PG3	
32	PI0	Program No. 1 indicator display — lights up at "L"
33	PI1	Program No. 2 indicator display
34	PI2	Program No. 3 indicator display
35	PI3	Program No. 4 indicator display
36	PJ0	Program No. 5 indicator display
37	PJ1	Program No. 6 indicator display
38	PJ2	Program No. 7 indicator display
39	PJ3	Program No. 8 indicator display
40	VDD	Power supply (+5V)
41	PA0	Repeat indicator display
42	PA1	Turntable start/stop select terminal ("L" start, "H" stop)

■ PRINTED CIRCUIT BOARDS AND WIRING CONNECTION



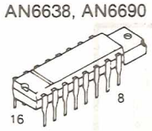
■ TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES

AN7812

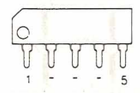


AN6683N	18 pin
SVILC6520CPB	42 pin
AN6914	8 pin

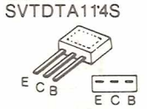
AN6638, AN6690



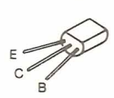
SVIM51953BL



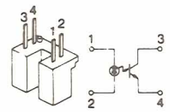
2SD1423, 2SC3311
2SA1309,
SVTDTA114S



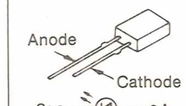
2SD892



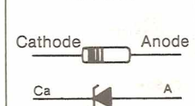
ON1161



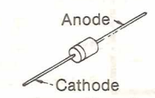
SVDSEL1121R



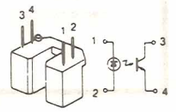
MA4056

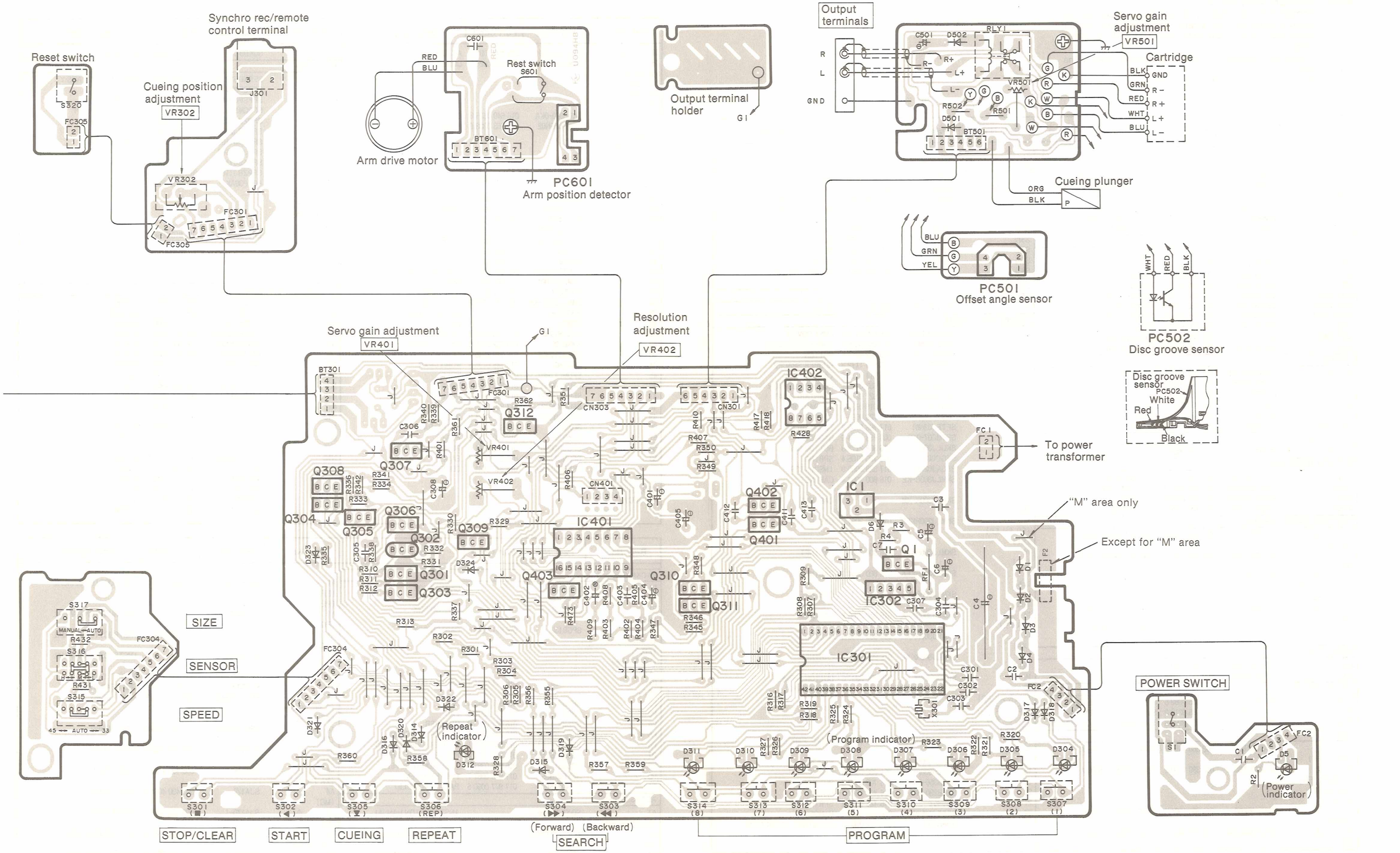


1SS254, SVDERA15



ON1186




Reset switch
S320
FC305
Synchro rec/remote control terminal
J301
Cueing position adjustment
VR302
FC305
FC301
C601
RED
BLU
Rest switch
S601
Arm drive motor
BT601
PC601
Arm position detector
Output terminal holder
G1
Output terminals
R
L
GND
C501
D502
RLY1
R+
R-
L+
L-
R502
R501
D501
VR501
BT501
Servo gain adjustment
VR501
Cartridge
BLK
GRN
RED
WHT
BLU
GND
R-
R+
L+
L-
Cueing plunger
ORG
BLK
P
BLU
GRN
YEL
PC501
Offset angle sensor
WHT
RED
BLK
PC502
Disc groove sensor
Disc groove sensor
PC502
White
Red
Black
Servo gain adjustment
VR401
Resolution adjustment
VR402
BT301
FC301
R362
Q312
CN303
CN301
IC402
R428
To power transformer
FC1
"M" area only
Except for "M" area
Q308
Q307
Q306
Q305
Q304
Q302
Q309
Q301
Q303
IC401
CN401
Q403
Q310
Q311
Q402
Q401
IC1
Q1
IC302
IC301
X301
F2
F1
FC2
POWER SWITCH
S1
SIZE
SENSOR
SPEED
S317
MANUAL
AUTO
R432
S316
R431
S315
45
AUTO
33
FC304
Repeat indicator
D312
Program indicator
D311
D310
D309
D308
D307
D306
D305
D304
Power indicator
S301 (■)
S302 (◀)
S305 (▼)
S306 (REP)
S304 (▶▶)
S303 (◀◀)
S314 (8)
S313 (7)
S312 (6)
S311 (5)
S310 (4)
S309 (3)
S308 (2)
S307 (1)
STOP/CLEAR
START
CUEING
REPEAT
(Forward)
(Backward)
SEARCH
PROGRAM

REPLACEMENT PARTS LIST

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS			
IC1	AN7812	001 060 3756 7	I.C., REGULATOR
IC101	AN6638	001 060 8786 1	I.C., TURNTABLE DRIVE
IC201	AN6683N	001 060 9690 4	I.C., TURNTABLE CONTROL
IC301	SVILC6520CPB	001 061 2596 4	I.C., MICRO COMPUTER
IC302	SVIM51953BL	001 061 1423 8	I.C., RESET
IC401	AN6690	001 060 8661 3	I.C., TONEARM DRIVE
IC402	AN6914	001 060 0297 5	I.C., TONEARM CONTROL
TRANSISTORS			
Q1	2SD14230	001 030 5265 1	TRANSISTOR
Q301	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q302	2SD892-Q	001 030 2415 7	TRANSISTOR
Q303	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q304, Q305	2SA1309Q	001 030 4058 0	TRANSISTOR
Q306, Q307	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q308- Q311	2SA1309Q	001 030 4058 0	TRANSISTOR
Q312	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q401, Q402	UN4111	001 030 2899 5	TRANSISTOR
Q403	2SC3311A-Q	001 030 5279 5	TRANSISTOR
DIODES			
D1- D4 ⚠	SVDERA15-04T	001 032 9312 5	RECTIFIER
D5	SVGGL8PR22	001 032 9928 9	L.E.D
D6	MA4056-M	001 032 7209 1	DIODE
D304- D312	SVGGL8PR22	001 032 9928 9	L.E.D
D314- D324	MA165	001 032 0494 0	DIODE
D501, D502	SVD1SS254	001 032 7475 5	DIODE
HALL ELEMENTS			
H101, H102	0H-003	001 036 0029 1	HALL ELEMENT
VARIABLE RESISTORS			
VR302	EVJE1AF20B54	001 174 7730 8	V.R., 50KΩ(B)
VR401	EVN57JA00B55	001 180 2921 7	V.R., 500KΩ(B)
VR402	EVN57JA00B25	001 180 2920 8	V.R., 200KΩ(B)
VR501	EVN61AA00B53	001 180 1692 5	V.R., 5KΩ(B)
COILS AND TRANSFORMERS			
T1 ⚠ (EK, XL)	SLT48DTE13E	001 202 4945 2	POWER TRANSFORMER
T1 ⚠ (M)	SLT48DTL3A	001 202 4946 1	POWER TRANSFORMER
T1 ⚠ (E, EG, EB, EH) (EF, EI, EC)	SLT48DT10E	001 202 4948 9	POWER TRANSFORMER
T1 ⚠ (MC)	SLT48DT11C	001 202 4949 8	POWER TRANSFORMER
T1 ⚠ (XA, PA, PE)	SLT57DTE14F		POWER TRANSFORMER
OSCILLATORS			
X201	SVFCSA419MGF	001 241 1202 7	CLOSCK OSC.
X301	SVFCSB800D	001 241 1164 6	CLOCK OSC.
PHOTO INTERRUPTERS			
PC501	ON1186	001 035 0088 5	OFFSET ANGLE SENSOR
PC502	SFPABJ2201A	001 035 0219 2	BLANK GROOVE SENSOR
PC601	ON1161	001 035 0069 8	TONEARM POSITION SENSOR
FUSES			
F1 ⚠ (XA, PA, PE)	XBA2C02TB0	002 380 1457 2	FUSE, 250V, T200mA
F2 ⚠ (E, EK, XL, EG) (EB, EH, EF) (EI, EC)	XBA2C05TB0	002 380 1350 2	FUSE, 250V, T500mA
F2 ⚠ (XA, PA, PE)	XBA2C06TB0	002 380 1364 6	FUSE, 250V, T600mA
F2 ⚠ (MC)	XBA2F08NU100	002 380 0454 9	FUSE, 250V, 800mA

Ref. No.	Part No.	Part Code	Description
SWITCHES			
S1 ⚠	SSHB4	003 435 6276 5	SW, POWER
S301- S306	SSGB2	003 437 0997 3	SW, OPERATION
S307- S313	SSGB1	003 437 0996 4	SW, OPERATION
S314	SSGB2	003 437 0997 3	SW, OPERATION
S315	SSSB4	003 431 3603 2	SW, SENSE
S316	SSSB5	003 431 3599 1	SW, SPEED
S317	SSSB4	003 431 3603 2	SW, SIZE
S320	SSPB6	003 434 1055 1	SW, RESET
S601	SSPB5	003 434 1051 5	SW, REST
S901 ⚠ (XA, PA, PE)	SFDSHXW225-3	003 435 4951 1	SW, VOLTAGE SELECT
RELAYS			
RLY1	SFDYG5A237P	003 450 2713 4	RELAY
CABINET AND CHASSIS			
1	SGDB100E0KA	016 802 2170 2	DUST COVER
1-1	SFGZJ02N01	017 653 0345 6	RUBBER CUSHION
2	SBCB310-0KA	016 702 6974 5	BUTTON
3	SHGB22	016 653 1172 3	RUBBER SPACER
4	SFUMC02N15	005 511 0113 6	LATCH
5	SFGZC02N01	017 653 0170 1	RUBBER CUSHION
6	SFTGQ06N01	017 827 0279 3	TURNTABLE MAT
7	SFWEJ02N01	017 918 0135 2	45 ADAPTOR
8	SFQAC06N01	017 726 0095 1	SPRING
9	SFTEJ02N01	017 766 0155 2	TURNTABLE
10	SFTMC07-01E	003 453 0154 6	MAGNET
11	SKULJ300R-KN	016 802 2173 9	BOTTOM BOARD
12	SFQCC05N01	017 726 0165 4	SPRING
13	SFGAJ02N01	017 828 0090 9	INSULATOR
14 (E, EC)	SKMLJ300R-KE	016 800 3093 4	CABINET
14 (M)	SKMLJ300R-KM		CABINET
14 (EB, EH, EF) (EI)	SKMLJ300RKEB	016 800 3097 0	CABINET
14 (EG)	SKMLJ300RKEG	016 800 3096 1	CABINET
14 (EK)	SKMLJ300RKEK	016 800 3094 3	CABINET
14 (MC)	SKMLJ300RKMC		CABINET
14 (PA, PE)	SKMLJ300RKPA	016 800 3100 2	CABINET
14 (XA)	SKMLJ300RKXA	016 800 3098 9	CABINET
14 (XL)	SKMLJ300RKXL	016 800 3095 2	CABINET
15	SBCB320-0K	016 702 6997 8	BUTTON, POWER
16 (E, EK, XL, EG) (EB, EH, EF) (EI, EC, XA) (PA, PE)	SGYLJ300R-KE		FRONT PANEL
16 (M, MC)	SGYLJ300R-KN	016 840 7556 4	FRONT PANEL
17	SHRLJ300RKN1		BLOCK
18	SHRLJ300RKN2	001 032 9963 6	BLOCK
19	SBCB300-0KA	016 702 6973 6	BUTTON
20	SBCB290-0KA	016 702 6972 7	BUTTON
21	SUSB57	016 726 0937 2	SPRING
22	SFATJ11N01A	016 824 0304 2	HINGE,
23	SHRB100	016 652 0769 9	ORNAMENT, INSULATOR

Ref. No.	Part No.	Part Code	Description
24 ⚠	SFDJHSC0516	003 400 7081 3	AC SOCKET
25 (M, MC, E, EK) (XL, EG, EB) (EH, EF, EI) (EC)	SKMB860-0KA	016 640 0526 2	COVER
26	SKMB850-0KA	016 640 0525 3	COVER
27 (M, MC, E, EK) (XL, EG, EB) (EH, EF, EI) (EC)	SFGCQ06N02	017 653 0333 0	RUBBER CUSHION
27 (XA, PA, PE)	SFGCQ06X01	017 653 0336 7	RUBBER CUSHION
28	SHRB99	016 652 0770 6	HOLDER, LED
29	SFKTQ06N01	017 700 0553 8	KNOB, SELECTOR
30	SJJ130-3	003 400 7580 9	JACK, REMOTE
31	SFKTQ06N02	017 700 0554 7	KNOB
32	SFDJBD2N03	003 400 6827 9	OUTPUT TERMINALS
33	SHRB98	016 652 0771 5	HOLDER, LED
34	SHRB97	016 652 0772 4	HOLDER, LED
35	SFMZC06N01R	002 316 0702 4	STATOR FRAME ASS'Y
36	SFMGQ34N01	017 601 0006 2	SHEET
37	SUKB37A	016 712 0358 1	BASE ASS'Y
38	SMNLJ300R-KN	002 310 2502 2	DC MOTOR
39	SHGB20-1		MOTOR COVER
40	SMBB2		BELT
41	SFQA913-01	017 726 0162 7	SPRING
42	SHRB102	016 652 0768 0	SWITCH BASE
43	SFUMJ11N05	016 718 3240 2	LEVER
44	SHRB66A	016 745 0198 6	WORM GEAR
45	SFUML11R03	017 756 0002 4	WHEEL
46	SFUZC05N02E	017 939 0001 8	ROPE
47	SFUMC05N22	017 740 0004 8	PULLEY
48	SFUMV05N23	017 802 0249 6	CAP
49	SFUZC02N01	017 712 0024 2	ROD
50	SUXB8	016 634 0145 7	GUIDE RAIL
51	SUWB19E	016 630 1755 3	PLATE
52	SFGCQ06N01	017 753 0001 0	RUBBER CUSHION
53	SFUMJ11N03	016 827 0284 4	BASE
54 (E, EK, XL, EG) (EB, EH, EF) (EI, EC)	SKMB870-0KA	016 640 0541 3	COVER

Ref. No.	Part No.	Part Code	Description
55	SUKB37A	016 712 0358 1	BASE ASS'Y
TONE ARM			
61	SFPKDJ2201E	016 827 0294 2	TONEARM BASE ASS'Y
61-1	SFPSP00302	017 726 0049 7	SPRING
61-2	SFPSP00504	017 726 0053 1	SPRING
61-3	SFPGML1101	017 653 0252 0	RUBBER CUSHION
62	SFDZJ11N02E	003 455 0294 5	PLUNGER
63	SFPABJ2202	016 640 0395 5	COVER
64	SFPAMJ1101A	001 271 0619 2	TONEARM ASS'Y
65	SFPJKJ1102	016 979 0368 4	PIN
66	SFPABJ1101	016 979 0369 3	SHIELD PLATE
67	SFPZBJ1101	016 979 0346 0	SHEET
68 (E, EK, XL, EG) (EB, EH, EF) (EI, EC, XA) (PA, PE)	EPCP30AK	001 272 0202 8	CARTRIDGE
69 (E, EK, XL, EG) (EB, EH, EF) (EI, EC, XA) (PA, PE)	EPS-30CS	016 819 0068 6	STYLUS
SCREWS, WASHERS & NUTS			
N1	XTV3+10G	005 501 0826 6	SCREW
N2	XWC3B	005 513 1310 9	WASHER
N3	XTW3+14TFZ	005 501 1008 8	SCREW
N4	XTW3+14QFYR	005 501 1007 9	SCREW
N5	SFXGQ06N01	005 500 4983 3	SCREW
N6	XTV3+6BFN	005 501 0888 2	SCREW
N7	XWE3A8BW	005 513 1386 9	WASHER
N8	CSTW3	005 512 0028 7	WASHER
N9	SFPEV0Q601	005 500 4982 4	SCREW
N10	XTN3+20J	005 501 4809 1	SCREW
N11	XTN2+12J	005 501 2509 8	SCREW
N12	XTV3+8G	005 501 0913 8	SCREW
N13	XYN2+C4	005 503 0548 9	SCREW
N14	XTS26+6JFZ	005 501 0668 2	SCREW
N15	XTN3+5J	005 501 0432 0	SCREW
N16	SFXWC06N02	005 513 3559 8	WASHER
N17	XSN3+20S	005 500 1403 6	SCREW
N18	XWE3D10	005 513 1390 3	WASHER
N19	XNC3HS	005 507 1243 9	NUT
N20	SFXN623-1	005 507 0352 9	NUT
N21	SFPTN00301	005 500 3153 7	SCREW

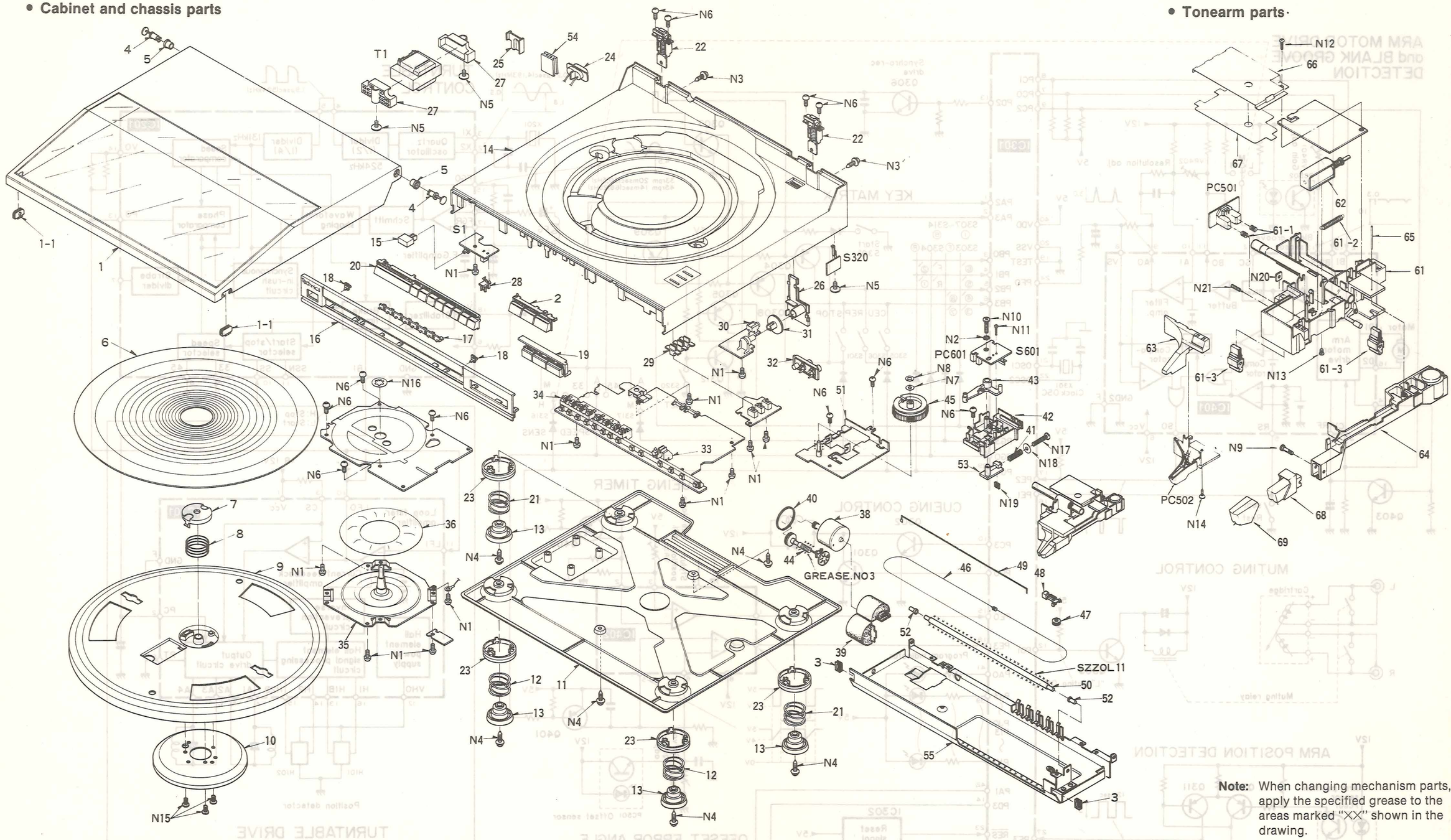
Ref. No.	Part No.	Part Code	Description
PACKINGS			
P1 (M)	SPGB130		CARTON BOX
P1 (MC)	SPGB131		CARTON BOX
P1 (E, EK, XL, EG) (EB, EH, EI) (EC, XA, PA) (PE)	SPGB132	016 971 5043 2	CARTON BOX
P1 (EF)	SPGB133	016 971 5041 4	CARTON BOX
P2	SPSB34	016 977 3243 4	PAD
P3	SPSB35	016 977 3242 5	PAD
P4	SPEB3	016 847 0153 2	CLAMPER
P5	SFHKJ22N01	016 643 0860 6	SPACER (TONEARM)
P6	SFHSC06N01	017 643 0029 1	SPACER (DUST COVER)
P7	XZB50X60A01	016 978 0517 4	PROTECTION COVER
P8	SPSB51	016 979 0387 1	SHEET(DUST COVER)
P9	SFYF32B35	017 978 0087 7	POLYETHYLENE BAG
P10	SFHDZ15R01	017 977 0050 5	PAD(TURNTABLE)
ACCESSORIES			
A1 (E, EB, EH, EC)	SQXLJ300R-KE		INSTRUCTION MANUAL
A1 (MC)	SQXLJ300RKMC		INSTRUCTION MANUAL
A1 (M)	SQX54148		INSTRUCTION MANUAL

Ref. No.	Part No.	Part Code	Description
A1 (EF, XA, PA) (PE)	SQX54150	016 983 5160 2	INSTRUCTION MANUAL
A1 (EG)	SQX54152		INSTRUCTION MANUAL
A1 (EK, XL)	SQX54153	016 983 5194 2	INSTRUCTION MANUAL
A1 (EI)	SQX54154		INSTRUCTION MANUAL
A2	SFDHBD2N01	003 492 5591 0	OUTPUT CORD
A3	SJPB7M	016 934 0159 0	GND LEAD WIRE
A4 ⚠ (E, EG, EB, EH) (EF, EI, EC)	SFDAC05E03	003 490 4809 5	POWER CORD
A4 ⚠ (EK)	SFDAC05G02	003 490 2613 3	POWER CORD
A4 ⚠ (XL)	SJA163	003 490 2503 8	POWER CORD
A4 ⚠ (XA, PA, PE)	SJA168	003 490 4122 9	POWER CORD
A4 ⚠ (MC)	SJA170	003 490 4064 2	POWER CORD
A4 ⚠ (M)	SJA170-1	003 490 5022 8	POWER CORD
A5 ⚠ (XA, PA, PE)	RJP120ZBS-H	003 402 1437 9	AC PLUG ADAPTOR
A6	SJP2257K	003 492 5606 0	CONNECTION CORD

■ EXPLODED VIEW

• Cabinet and chassis parts

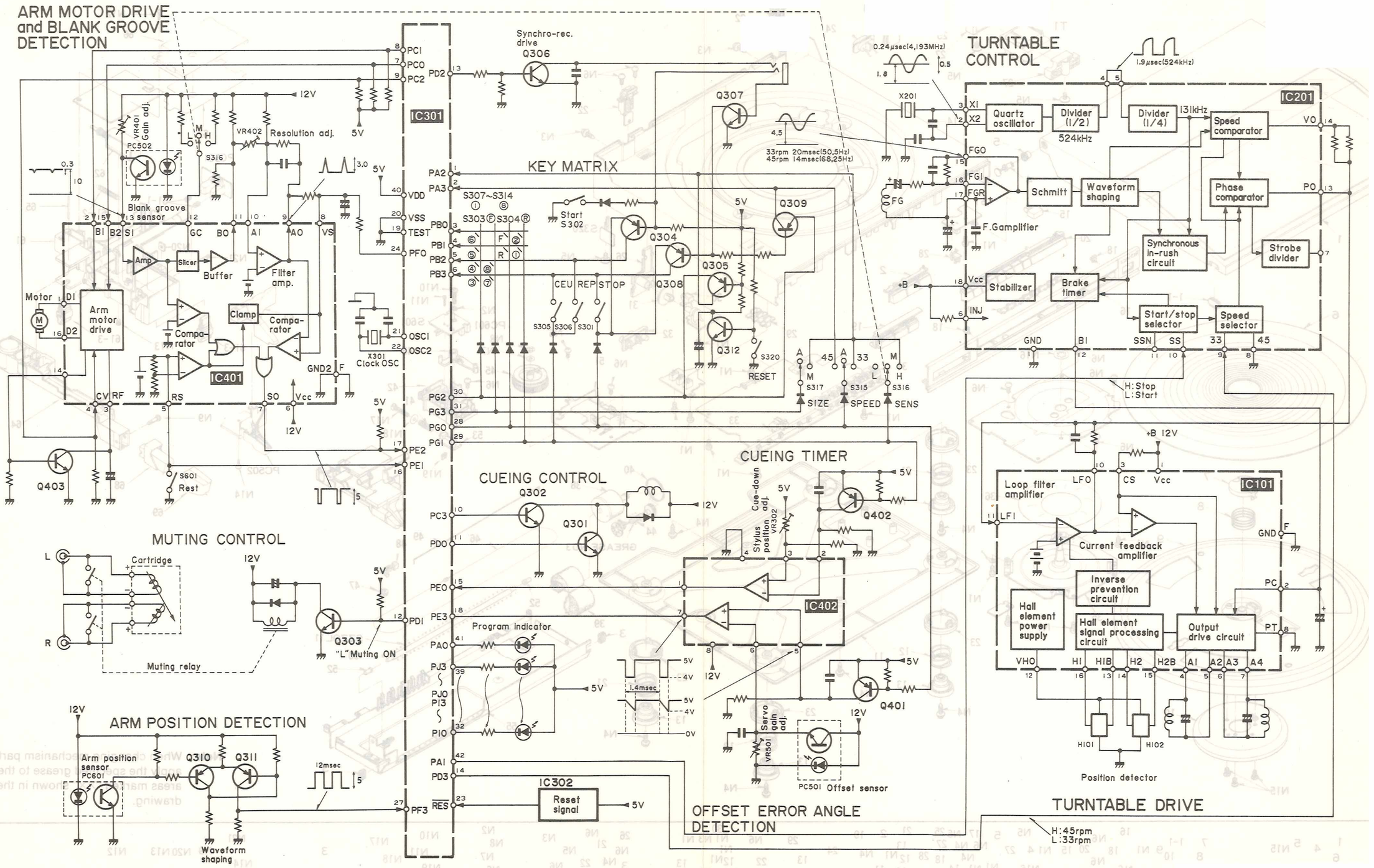
• Tonearm parts



Note: When changing mechanism parts, apply the specified grease to the areas marked "XX" shown in the drawing.

1 ~ 30	1-1, 1, 6, 4, 5, N15, 7, 8, 10, 9, N1, 16, N6, 18, N6, 20, 15, N1, 4, 27, N5, 5, 17, N6, N4, N5, 27, 25, 21, 13, N4, 18, 28, 12, N1, 13, 11, 2, 19, N4, 24, 29, 13, N6, 22, 30, N1, N1, N4, N3, N1, N4, 13, 26, N6, 3, N4, 21, 22, N5, N6, N3, N2, N8, N7, N6, N10, N11, N19, N17, N18, 3, N21, N14, N9, N20, N13, N12
31 ~ 69	35, 36, 23, 23, 34, 54, 23, 33, 23, 32, 44, 31, 40, 51, 39, 38, 52, 55, 45, 53, 46, 43, 41, 49, 42, 48, 47, 50, 52, 63, 61-3, 67, 61-1, 69, 66, 61-3, 68, 62, 61-2, 65, 61, 64

■ BLOCK DIAGRAM



■ RESISTORS & CAPACITORS

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value

ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value 47x10¹ (ohm)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

ECEA	50	M	330
Type	Voltage	Peculiarity	Value (33x10° microfarad)

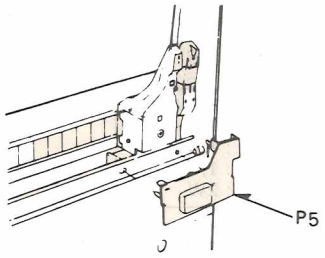
Resistor Type	Wattage	Tolerance
ERD : Carbon ERG : Metal Oxide ERX : Metal Film ERQ : Fuse Type Metal ERD[ ]L : Carbon (chip) ERO[ ]K : Metal Film (chip) ERC : Solid	10 : 1/8W 12 : 1/2W 25 : 1/4W 1A : 1W 18 : 1/8W S2 : 1/4W S1 : 1/2W 2F : 1/4W 50 : 1/2W 2A : 2W	J : ±5% F : ±1% G : ±2% K : ±10%

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECQP : Polyproylene ECG : Ceramic ECEA□□□N: Non Polar Electrolytic QCU□ : Ceramic (Chip Type) ECUX : Ceramic (Chip Type) ECF : Semiconductor EECW : Liquid electrolyte double layer capcitor	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1H : 50V 1V : 35V 50 : 50V 05 : 50V 2H : 500V 2A : 100V 1 : 100V KC : 400V AC KC : 125VAC (UL) 1J : 63V	C : ±0.25pF J : ±5% K : ±10% Z : +80% −20% P : +100% −0% M : ±20% D : ±0.5pF G : ±2%

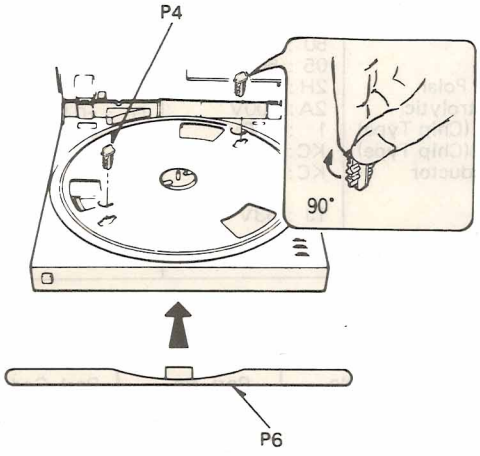
Ref. No.	Part No.	Part Code
RESISTORS		
R2	ERDS2TJ681	001 152 2449 8
R3	ERDS2TJ102	001 152 2346 4
R4	ERDS2TJ122	001 152 2423 8
R103	ERDS2TJ104	001 152 2348 2
R104	ERX1ANJ2R7	001 151 0440 0
R105	ERDS2TJ270	001 152 2434 5
R201	ERDS2TJ273	001 152 2436 3
R202	ERDS2TJ394	001 152 2441 6
R203	ERDS2TJ680	001 152 2448 9
R204	ERDS2TJ151	001 152 2426 5
R205	ERDS2TJ223	001 152 2432 7
R207	ERDS2TJ102	001 152 2346 4
R208	ERDS2TJ680	001 152 2448 9
R301, R302	ERDS2TJ224	001 152 2433 6
R303, R304	ERDS2TJ224	001 152 2433 6
R305, R306	ERDS2TJ224	001 152 2433 6
R307, R308	ERDS2TJ272	001 152 2354 4
R309, R310	ERDS2TJ103	001 152 2347 3
R311	ERDS2TJ562	001 152 2445 2
R312	ERDS2TJ332	001 152 2357 1
R313	ERDS2TJ103	001 152 2347 3
R316, R317	ERDS2TJ332	001 152 2357 1
R318, R319	ERDS2TJ332	001 152 2357 1
R320, R321	ERDS2TJ681	001 152 2449 8
R322, R323	ERDS2TJ681	001 152 2449 8
R324, R325	ERDS2TJ681	001 152 2449 8
R326, R327	ERDS2TJ681	001 152 2449 8
R328	ERDS2TJ681	001 152 2449 8
R329, R330	ERDS2TJ223	001 152 2432 7
R331, R332	ERDS2TJ820	001 152 2453 2
R333, R334	ERDS2TJ223	001 152 2432 7
R335, R336	ERDS2TJ223	001 152 2432 7
R337	ERDS2TJ682	001 152 2365 1
R338	ERDS2TJ472	001 152 2362 4
R339, R340	ERDS2TJ333	001 152 2358 0
R341, R342	ERDS2TJ223	001 152 2432 7
R345	ERDS2TJ682	001 152 2365 1
R346	ERDS2TJ333	001 152 2358 0
R347	ERDS2TJ563	001 152 2446 1
R348	ERDS2TJ103	001 152 2347 3
R349	ERDS2TJ683	001 152 2450 5
R350	ERDS2TJ563	001 152 2446 1
R351	ERDS2TJ561	001 152 2364 2
R355, R356	ERDS2TJ103	001 152 2347 3
R357, R358	ERDS2TJ103	001 152 2347 3
R359, R360	ERDS2TJ103	001 152 2347 3
R361	ERDS2TJ102	001 152 2346 4
R362	ERDS2TJ472	001 152 2362 4
R401	ERDS2TJ102	001 152 2346 4
R402, R403	ERDS2TJ153	001 152 2351 7
R404, R405	ERDS2TJ474	001 152 2443 4
R406	ERDS2TJ154	001 152 2427 4
R407	ERDS2TJ153	001 152 2351 7
R408	ERDS2TJ331	001 152 2356 2
R409	ERDS2TJ473	001 152 2363 3
R410	ERDS2TJ102	001 152 2346 4
R417	ERDS2TJ224	001 152 2433 6
R418	ERDS2TJ333	001 152 2358 0
R428	ERDS2TJ392	001 152 2439 0
R431	ERDS2TJ563	001 152 2446 1
R432	ERDS2TJ154	001 152 2427 4
R473	ERDS2TJ5R6	001 152 2444 3
R501	ERDS2TJ391	001 152 2360 6
R502	ERDS2TJ271	001 152 2435 4
RF1	ERD2FCG560	001 152 2478 3
CAPACITORS		
C1 ⚠	ECQG1223KZ	001 106 4822 9
C2, C3 ⚠	ECKD1H223PF	001 103 1510 9
C4	ECEB1EU222	001 120 4783 7
C5	ECEA1CU330	001 120 2834 1
C6	ECEA0JU470	001 120 3125 9
C7	RCBS1C103MYY	001 103 8060 6
C101	ECEA1CU330	001 120 2834 1
C102	ECEA1HUR22	001 120 3247 0
C103	ECQM1H274JZ	001 106 0768 4
C105, C106	ECEA1AN470S	001 120 0184 0
C107	ECEA1HU010	001 120 2842 1
C201	ECEA0JU470	001 120 3125 9
C202	ECEA1HUR22	001 120 3247 0
C203	ECQM1H683JZ	001 106 0839 6
C204	ECCD1H121KC	001 103 0391 2
C205	ECCD1H330KC	001 103 0569 4
C206	ECCD1H121KC	001 103 0391 2
C207	ECEA0JU470	001 120 3125 9
C208	ECEA1AU221	001 120 3131 1
C301	ECFR1E104ZF	001 103 5089 5
C302, C303	ECCF1H221K	001 103 3881 7
C304	ECQG1H104KZ	001 106 4865 8
C305, C306	ECKD1H102KB	001 103 1414 8
C307	ECFD1H104ZF	001 108 0906 2
C308	ECEA1AU220	001 120 3563 1
C401	ECEA1HUR47	001 120 3249 8
C402	ECEA1EN4R7S	001 120 0299 0
C403	ECQG1H333KZ	001 106 4437 4
C404	ECEA1HUR22	001 120 3247 0
C405	ECEA1EU4R7	001 120 2840 3
C411, C412	ECQG1H104KZ	001 106 4865 8
C413	ECFD1H104ZF	001 108 0906 2
C501	ECEA1CU101	001 120 2926 8
C601	ECFF1C104ZF	001 108 0983 9

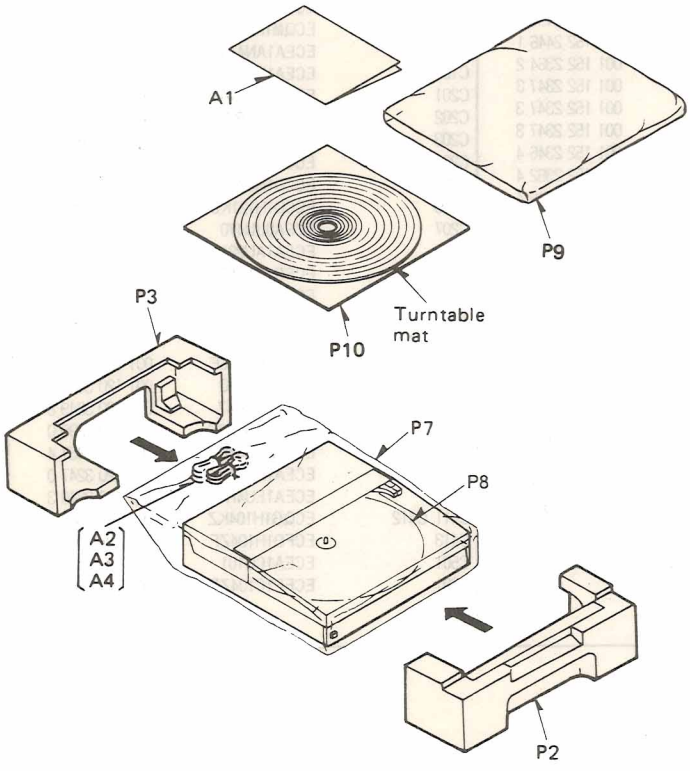
■ PACKING

1. Open the upper cabinet and fit the spacer in place.

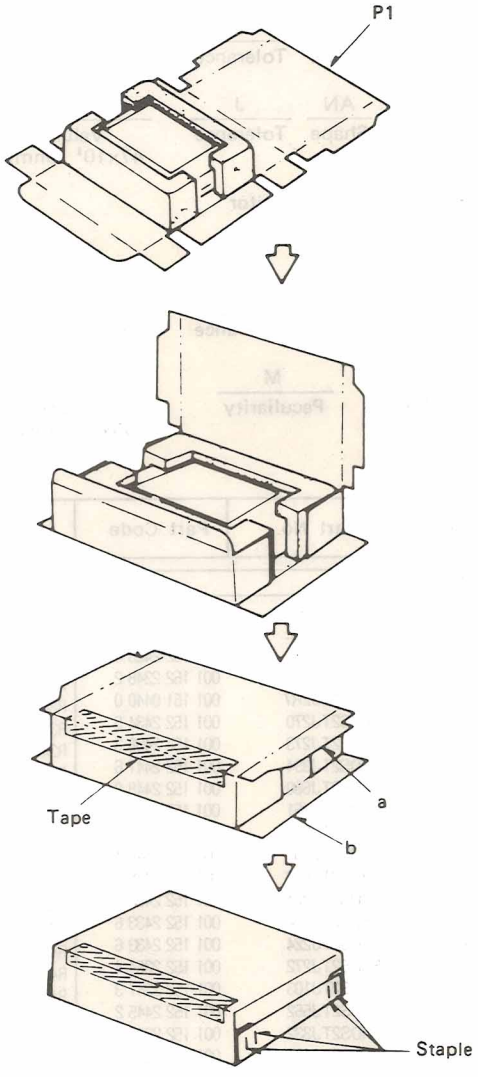


2. Fit the turntable platter clamper and dust cover spacer in place.

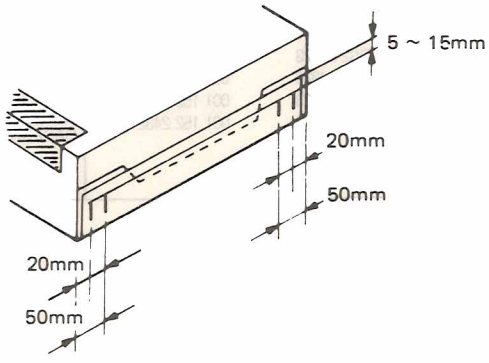




3. Place the unit (with cushions attached) as illustrated.
4. Fold the flaps according to the line marks.
5. Seal the top with adhesive tape.
   *Use gum tape or adhesive cloth tape of 50mm wide at least.
6. For the edges, first fold the flap "a" and then flap "b", and staple. Remember to staple only flap "b". (Use 15 or 16mm staple)



*Stapling positions are shown below.



Printed in Japan
860611000Ⓢ HS/TK